

**CLAIMS**

What is claimed is:

- 5     1.     In a block diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:
- designating at least one source block;
- selecting at least one characteristic of said source block;
- designating at least one destination block; and
- 10          propagating said characteristic to said destination block.
2.     The medium of claim 1, wherein said source block comprises a plurality of source blocks and further comprising, before said step of selecting at least one characteristic, the step of determining an intersection of characteristics common to said
- 15   plurality of source blocks and wherein said step of selecting at least one characteristic involves a selection from said intersection.
3.     The medium of claim 1, the method further comprising, after said step of selecting at least one characteristic, the step of creating a data structure for the selected
- 20   at least one characteristic in said step of selecting, said data structure having a plurality of substructures.
4.     The medium of claim 1, wherein said step of selecting at least one characteristic involves the use of a category list, said at least one characteristic of said source block
- 25   comprising a plurality of characteristics, each of said characteristics associated with at least one category of said category list.

5. The medium of claim 1, wherein said source block is a subsystem representing a plurality of blocks.
- 5 6. The medium of claim 1, wherein said destination block is a subsystem representing a plurality of blocks and said at least one characteristic is propagated to each of said plurality of blocks.
7. The medium of claim 1, wherein said destination block is a subsystem  
10 representing a plurality of lower-level blocks and said step of propagating is restricted to propagating to said destination block that is a subsystem block and propagating does not occur to said plurality of lower-level blocks.
8. The medium of claim 1, the method further comprising the step of undoing said  
15 propagating step by returning the characteristics of said destination block to a condition existing prior to said propagating step.
9. The medium of claim 1, wherein said step of propagating said at least one characteristic of said source block involves propagating less than all characteristics of  
20 said source block.
10. The medium of claim 9, wherein said step of propagating involves propagating less than all characteristics of said source block, as specified by a user.

11. The medium of claim 1, wherein said step of selecting involves selecting said characteristics to be propagated from a GUI.

12. The medium of claim 1, wherein said step of selecting involves selecting said characteristics to be propagated by the use of a shortcutkey.

13. The medium of claim 1, wherein said step of propagating involves propagating less than all characteristics of said source block, as automatically determined based characteristics of said source block and characteristics of said destination block.

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14. The medium of claim 1, the method further comprising the step of storing information relating to propagating step to enable repeating said selecting step and said propagating step.

15 15. The medium of claim 14, wherein said storing step comprises storing information relating to multiple iterations of said propagating step.

16. The medium of claim 1, the method further comprising, after said selecting step and before said designating at least one destination block step, the step of determining which blocks of said block diagram environment have characteristics corresponding to the selected at least one characteristic in said step of selecting.

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17. The medium of claim 1, the method further comprising, after said step of designating at least one destination block and before said step of designating at least one

source block, the step of determining which blocks of said block diagram environment have characteristics that could be propagated to said destination block.

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18. The medium of claim 1, wherein said at least one characteristic is a parameter.
19. The medium of claim 1, wherein said at least one characteristic is a method.
20. The medium of claim 1, wherein said selecting at least one characteristic step is performed before said designating at least one source block step and said designating at least one destination block step.
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21. The medium of claim 1, wherein said at least one source block is a predetermined member of a plurality of said destination blocks.
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22. The medium of claim 1, wherein said steps of designating at least one source block and designating at least one destination block are performed from a text-based list.
23. The medium of claim 1, wherein said destination block does not have said characteristic prior to said propagating step.
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24. In a block diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:
- designating a plurality of source blocks;

determining an intersection of characteristics common to said plurality of source blocks and wherein said step of selecting at least one characteristic involves a selection from said intersection

selecting at least one characteristic from said intersection;

5       designating a destination block; and

propagating said at least one characteristic to said destination block.

25.     In a block diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:

10       designating a source block;

designating a plurality of destination blocks;

determining an intersection of characteristics common to said source block and said plurality of destination blocks wherein said step of selecting at least one characteristic involves a selection from said intersection

15       selecting at least one characteristic from said intersection;

propagating said at least one characteristic to each of said plurality of destination blocks.

26.     In an electronic device having a block diagram environment, a method

20       comprising the steps of:

designating at least one source block;

selecting at least one characteristic of said source block;

designating at least one destination block; and

propagating said characteristic to said destination block.

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27. The device of claim 26, wherein said at least one characteristic is a parameter.

28. The device of claim 26, wherein said at least one characteristic is a method.

5 29. The device of claim 26, wherein said step of selecting involves selecting said characteristics to be propagated from a GUI.

30. A system for providing a block diagram environment for use on an electronic device where the block diagram environment processes the block diagram model to  
10 propagate at least one characteristic from a source block to a destination block.

31. The system of claim 30, wherein said at least one characteristic is selected from a GUI.

15 32. In an electronic device having a block diagram environment, a graphical user interface, comprising:

a display of at least one characteristic of a source block eligible for propagation;

a selection indicator to signify any characteristics of said at least one characteristic selected for propagation; and

20 an activation tool to confirm the selection of characteristics.

33. The electronic device of claim 32, wherein said display includes a display of a representation of at least one previous propagation, said representation selectable by a user to signify a selection of characteristics.

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34. In a software diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:

designating at least one source graphical object;

selecting at least one characteristic of said source graphical object;

5 designating at least one destination graphical object; and

propagating said characteristic to said destination graphical object.

35. The medium of claim 34, wherein said software diagram environment is a unified modeling language diagram.

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36. In a circuit diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:

designating at least one source component;

selecting at least one characteristic of said source component;

15 designating at least one destination component; and

propagating said characteristic to said destination component.

37. In a mechanical diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:

20 designating at least one source component;

selecting at least one characteristic of said source component;

designating at least one destination component; and

propagating said characteristic to said destination component.

38. In a biological diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:

designating at least one source graphical elements;

selecting at least one characteristic of said source graphical elements;

5 designating at least one destination graphical elements; and

propagating said characteristic to said destination graphical elements.

39. In a network diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:

10 designating at least one source graphical elements;

selecting at least one characteristic of said source graphical elements;

designating at least one destination graphical elements; and

propagating said characteristic to said destination graphical elements.

15 40. In a block diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:

designating at least one source line associated with a first block and a second block of said block diagram environment;

selecting at least one characteristic of said source line;

20 designating at least one destination line associated with a third block and a fourth block of said block diagram environment; and

propagating said characteristic to said destination line.

41. The medium of claim 40, wherein said second block and said third block are the  
25 same block.



42. In a block diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:

designating at least one source block;

5 selecting at least one first characteristic of said source block;

designating a plurality of destination blocks; and

propagating said first characteristic to at least one destination block of said plurality of destination blocks.

10 43. The medium of claim 42, wherein said propagating step determines said at least one destination block in which to propagate said first characteristic is the same block type as said at least one source block.

44. The medium of claim 42, wherein said propagating step determines said at least  
15 one destination block in which to propagate said first characteristic based on a second characteristic of said at least one source block matching a second characteristic of said at least one destination block in which to propagate said first characteristic.

45. The medium of claim 44, wherein said second characteristic designates said  
20 block as representative of a virtual subsystem.

46. The medium of claim 42, wherein said destination block is a subsystem representing a plurality of blocks and said at least one characteristic is propagated to each of said plurality of blocks.

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47. In a block diagram environment, a medium holding electronic device executable steps for a method, said method comprising the steps of:

designating a first source block;

designating a second source block;

5 selecting at least one characteristic of said first source block and said second source block, said first source block having said characteristic of a first value, said second source block having said characteristic of a second value;

designating a first destination block and a second destination block; and

propagating said characteristic to said first destination block and said second  
10 destination block, said first value propagated to said first destination block and said second value propagated to said second destination block.

48. The medium of claim 47, wherein said propagating step determines said first  
destination block and said second destination block by the use of respective contexts  
15 relative to said first source block and said second source block.